

# Human Computer Interaction

CompSci 345

## Agenda

- Scope
- Plan
- Resources
- Assessment
- Assignment 1
- Tutorials

## People

- Lecturer
  - Prof. Jim Warren
    - Room 730.448 (that's at Tamaki)
    - Email jim@cs.auckland.ac.nz
  - No formal office hours, but will usually be available just before or after lecture, by email and by appointment at Tamaki if needed

## Meeting Times

- Lectures
  - Monday, Wednesday and Thursday 1 – 2
- Tutorials – you attend one of these
  - Tuesday 10 – 12
  - Tuesday 12 – 2
  - Thursday 10 – 12
  - **Room**
    - GLT

## Scope

- Introduction to HCI
  - Software Engineering Life Cycle
  - Design Basics
  - Designing for Human Capabilities
  - Evaluation – theory and practice
  - Modelling Interaction

## Plan 1<sup>st</sup> ½

Week	Topic	Reference
1	Intro Design Basics	Chap 5
2	HCI in the design process & Design Rules	Chap 6 & 7
3	The Human	Chap 1
4	The Computer (no lecture Wed or Thu – work on deliverable 1 of Asnmt 1)	Chap 2
5	The Interaction & Paradigms	Chap 3 & 4
6	Implementation support (no lecture on Monday)	Chap 8

## Plan 2<sup>nd</sup> ½

Week	Topic	Reference
7	Evaluation (demos in tutorials)	Chap 9
8	User support & Universal design	Chap 10 & 11
9	Models & Theories	Chap 12 & 13
10	(reserve the right to make some changes in how we handle these later weeks)	Chap 14 & 15
11		Chap 16 & 17
12		Chap 18

## Plan - continued

- A number of guest lectures
  - HCI practitioners
  - HCI researchers
- The information they present IS examinable
  - some provide handouts – others don't

## Resources

- Text book
  - Human Computer Interact (3<sup>rd</sup> Edition)  
Dix, Finlay, Abowd & Beale (approx \$100)
  - We follow the textbook quite closely: **BUY IT!**
- Class Web Site  
<http://www.cs.auckland.ac.nz/compsci345s2c/>
- Library Web Site (assignment resources)
  - <http://www.library.auckland.ac.nz/subjects/comp/courses-pages/compsci345sc.htm>

Lecture 1 - Introduction

COMPSCI 345

## Assessment 1 of 2

Assignments	15%	See below
Test	15%	18 September 6.30-8pm in 109-B28
Exam	70%	TBA

- You must pass the practical (assignments)
- You must pass the theory (exam + test)
- You must pass the assignments + test + exam
- Grades held on Cecil <https://cecil.auckland.ac.nz/>

Lecture 1 - Introduction

COMPSCI 345

## Assessment 2 of 2

- If you miss the test or exam you **must** apply for an aegrotat through the exam office
- Anything to do with assignments, talk to the lecturer

Assignments	%	Due
Design & Build		
Design	4	Hand up in lecture Monday 14 August
Build & Demo	4	Demo in tutorial week of 11 September (and select groups for usability study); CD to drop box by 15 September
Usability Study	4	6 October
Modelling	3	20 October

Lecture 1 - Introduction

COMPSCI 345

## Regulations & Guidelines

- There are many avenues to get extra help
  - Lecturer (email, before or after class, by appointment at Tamaki)
  - Class Forum
  - General help look on <http://www2.auckland.ac.nz/science/>
- Reminder – copying work is cheating
  - University policy  
*The University of Auckland will not tolerate cheating, or assisting others to cheat, and views cheating in coursework as a serious academic offence. The work that a student submits for grading must be the student's own work, reflecting his or her learning. Where work from other sources is used, it must be properly acknowledged and referenced. This requirement also applies to sources on the world-wide web. A student's assessed work may be reviewed against electronic source material using computerized detection mechanisms. Upon reasonable request, students may be required to provide an electronic version of their work for computerized review.*
  - Department policy <http://www.cs.auckland.ac.nz/CheatingPolicy.html>

Lecture 1 - Introduction

COMPSCI 345

## HCI Basics

- HCI is a multi-disciplinary subject, we draw on
  - Computer science
  - Psychology
  - Design

## Assignment 1

- A challenging interaction scenario
- This is about
  - Finding user needs / constraints
  - Design
  - Interaction
  - Programming

## Assignment 1

- You can use any programming language that is available in the CS labs
- This is a group task – 4 per group
  - All members of the group will receive the same mark unless you make a written case for it to be otherwise
- You will do better if you have group members who can each take a bit of a focus area; e.g.:
  - Design /art (any senior school art subject would be helpful)
  - A clever programmer
  - At least some aptitude for the clinical side (reading up on diabetes management)
  - Helpful if somebody puts some focus on project management
- Groups will be formed in week 2 (by you)
  - all group members should be in the same tutorial (you can change tutorials depending on space)

## Last years project

- Researching family history
- Demo

## Tutorials

- Are informal this year (generally unsupervised and without a structured activity, almost always unsupervised)
- HOWEVER, it's a really, really good idea to make regular attendance a habit
  - It's time and space set aside for your group to do its thing
- On week 7 we meet *formally* for the demo

## Fitts Law

- One of the very basic interaction 'laws' is Fitts Law (pg 441 – 443)
- It basically states that the further 2 things are apart the longer it takes to move from one to another (e.g., with a mouse cursor)
- It is often used to measure interaction efficiency
- We have written a little play program for you to experiment with in this week's tutorial (see, the tutorials ARE worthwhile!)

## Fitts Law (contd.)

- Fitts' Law describes the time taken to hit a screen target:

$$M_t = a + b \log_2(D/S + 1)$$

where:

a and b are empirically determined constants (and they differ depending on the device – such as mouse v. trackball)

M<sub>t</sub> is movement time

D is Distance

S is Size of target

- Try the program and see if your times fit the curve
- Is YOUR a and b better than your classmate's?